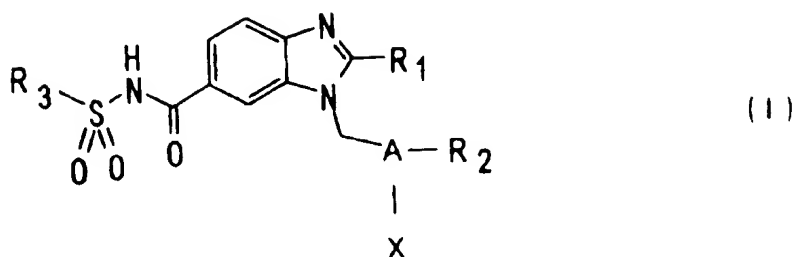


CLAIMS

1. A benzimidazole derivative of the following formula (I), or its salt:



5 wherein R₁ represents a lower alkyl group or a lower alkyloxy-lower alkyl group; R₂ represents a hydrogen atom, a halogen atom, an alkyl group having 1 to 8 carbon atoms, an aryl group, an aryl-lower alkyl group, an aryloxy-lower alkyl group, an alkyloxy group having 1 to 8 carbon atoms, a lower alkyloxy-lower alkyloxy group, a lower cycloalkyl-lower alkyloxy group, an aryl-lower alkyloxy group, an alkynyl group having 3 to 8 carbon atoms, a halo-lower alkyl group, a lower alkylthio group, a lower alkanoylamino group, an N-substituted lower alkylamino group, a thienyl group, a furyl group, or a morpholino group; R₃ represents a lower alkyl group, a lower alkenyl group, an aryl group, a lower alkylaryl group, an aryl-lower alkenyl group, a halothienyl group, a lower alkylamino group, or an aryl-lower alkylamino group;

20 A represents a benzene ring, a naphthalene ring, or a pyridine ring; and

X represents a halogen atom.

2. The benzimidazole derivative or its salt of claim 1, wherein A is a benzene ring.

25 3. The benzimidazole derivative or its salt of claim 2, wherein a lower alkyl or a lower alkenyl moiety of a lower alkyl

lower alkyl group, an aryl-lower alkyl alkyloxy group, a lower cycloalkyl-lower alkyloxy group,

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- (2-chloro-4-(phenyloxymethyl)benzyl)-2-methyl-6-((E)-(1-pent-1-ene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(phenyloxymethyl)benzyl)-2-methyl-6-((E)-(2-phenylethene)sulfonylcarbamoyl)benzimidazole, 6-(1-butanesulfonylcarbamoyl)-1-(2-chloro-4-(phenyloxymethyl)benzyl)-2-methylbenzimidazole, 1-(2-chloro-4-(phenyloxymethyl)benzyl)-2-methyl-6-((3-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-octyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-octyloxy)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-hexyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-pentyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-pentyloxy)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(4-n-butyloxy-2-chlorobenzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-propyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(n-propyloxy)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(methyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(methyloxy)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-((2-methyloxyethyl)oxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-((2-methyloxyethyl)oxy)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(cyclopentylmethyloxy)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-

(cyclopentylmethyloxy)benzyl)-2-methyl-6-((E)-(1-pent-1-ene)sulfonylcarbamoyl)benzimidazole,

$$f = \frac{1}{2} \left(\frac{1}{\sqrt{2}} \right) = \frac{1}{2\sqrt{2}}$$

- pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-heptyn-1-yl)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-ethylbenzyl)-2-methyl-6-(1-
- 5 pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-ethylbenzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(4-n-butyl-2-chlorobenzyl)-2-methyl-6-(1-
- 10 pentanesulfonylcarbamoyl)benzimidazole, 1-(4-n-butyl-2-chlorobenzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-pentyl)benzyl)-2-methyl-6-(1-
- 15 pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-pentyl)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 6-(1-butanesulfonylcarbamoyl)-1-(2-chloro-4-(1-hexyl)benzyl)-2-methylbenzimidazole, 1-(2-chloro-4-(1-hexyl)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-hexyl)benzyl)-2-methyl-6-((E)-1-pent-1-
- 20 enesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-hexyl)benzyl)-2-methyl-6-((E)-(2-phenylethene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-hexyl)benzyl)-2-methyl-6-((5-chloro-2-thiophene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-
- 25 heptyl)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(1-heptyl)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 6-(1-butanesulfonylcarbamoyl)-1-(2-chloro-4-(trifluoromethyl)benzyl)-
- 30 2-methylbenzimidazole, 6-(benzenesulfonylcarbamoyl)-1-(2-chloro-4-(trifluoromethyl)benzyl)-2-methylbenzimidazole, 1-(2-chloro-4-(trifluoromethyl)benzyl)-2-methyl-6-((3-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-

(trifluoromethyl)benzyl)-2-methyl-6-((5-chloro-2-

- thiophene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(N-methyl-N-(1-pentyl)amino)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(N-methyl-N-(1-pentyl)amino)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(4-(N-1-butylamino)-2-chlorobenzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(4-(N-1-butylamino)-2-chlorobenzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-morpholinobenzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-morpholinobenzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(methylthio)benzyl)-2-methyl-6-(1-pentanesulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(methylthio)benzyl)-2-methyl-6-((4-methylbenzene)sulfonylcarbamoyl)benzimidazole, 1-(2-chloro-4-(trifluoromethyl)benzyl)-2-methyl-6-((N-1-propylaminosulfonyl)carbamoyl)benzimidazole, 1-(2-chloro-4-phenylbenzyl)-2-methyl-6-((N-1-propylaminosulfonyl)carbamoyl)benzimidazole, 6-((N-1-butylaminosulfonyl)carbamoyl)-1-(2-chloro-4-phenylbenzyl)-2-methylbenzimidazole, 1-(2-chloro-4-phenylbenzyl)-6-((N-1-hexylaminosulfonyl)carbamoyl)-2-methylbenzimidazole, 6-((benzylaminosulfonyl)carbamoyl)-1-(2-chloro-4-phenylbenzyl)-2-methylbenzimidazole, 1-(4-bromo-2-chlorobenzyl)-6-((N-ethylaminosulfonyl)carbamoyl)-2-methylbenzimidazole, 1-(4-bromo-2-chlorobenzyl)-2-methyl-6-((N-1-propylaminosulfonyl)carbamoyl)benzimidazole, 1-(4-bromo-2-chlorobenzyl)-6-((N-1-butylaminosulfonyl)carbamoyl)-2-methylbenzimidazole, 1-(4-bromo-2-chlorobenzyl)-2-methyl-6-((N-1-pentylaminosulfonyl)carbamoyl)benzimidazole, 6-((benzylaminosulfonyl)carbamoyl)-1-(4-bromo-2-chlorobenzyl)-2-4-(ethyloxy)benzyl)-6-((N-ethylaminosulfonyl)carbamoyl)

methylbenzimidazole, 1-(2-chloro-4-(ethyloxy)benzyl)-2-methyl-6-
 ((N-1-propylaminosulfonyl)carbamoyl)benzimidazole, 6-((N-1-
 butylaminosulfonyl)carbamoyl)-1-(2-chloro-4-(ethyloxy)benzyl)-2-
 methylbenzimidazole, 1-(2-chloro-4-(pentyloxy)benzyl)-6-((N-
 5 ethylaminosulfonyl)carbamoyl)-2-methylbenzimidazole, 1-(2-
 chloro-4-(pentyloxy)benzyl)-2-methyl-6-((N-1-
 propylaminosulfonyl)carbamoyl)benzimidazole, 6-((N-1-
 butylaminosulfonyl)carbamoyl)-1-(2-chloro-4-(pentyloxy)benzyl)-
 2-methylbenzimidazole, 1-(2-chloro-4-(2-furyl)benzyl)-6-((N-
 10 ethylaminosulfonyl)carbamoyl)-2-methylbenzimidazole, 1-(2-
 chloro-4-(2-furyl)benzyl)-2-methyl-6-((N-1-
 propylaminosulfonyl)carbamoyl)benzimidazole, 6-((N-1-
 butylaminosulfonyl)carbamoyl)-1-(2-chloro-4-(2-furyl)benzyl)-2-
 methylbenzimidazole, 6-((benzylaminosulfonyl)carbamoyl)-1-(2-
 15 chloro-4-(2-furyl)benzyl)-2-methylbenzimidazole, 1-(2-chloro-4-
 ethylbenzyl)-2-methyl-6-((N-1-
 propylaminosulfonyl)carbamoyl)benzimidazole, 6-((N-1-
 butylaminosulfonyl)carbamoyl)-1-(2-chloro-4-ethylbenzyl)-2-
 methylbenzimidazole, and 6-((N-1-butylaminosulfonyl)carbamoyl)-
 20 1-(2-chloro-4-n-hexylbenzyl)-2-methylbenzimidazole.

6. A pharmaceutical composition for preventing or
 treating impaired glucose tolerance, diabetes, diabetic
 complications, insulin-resistant syndrome, polycystic ovary
 syndrome, hyperlipidemia, atherosclerosis, cardiovascular
 25 disorders, hyperglycemia, pancreatitis, osteoporosis,
 hyperuricemia, hypertension, inflammatory bowel disease, skin
 disease accompanying abnormal differentiation of epidermal cells,
 stenocardia, pulmonary hypertension, congestive heart failure,
 glomerulopathy, tubulointerstitial disorders, renal failure,
 30 atherosclerosis, angiostenosis, distal angiopathy, cerebral
 apoplexy, chronic reversible obstructions, autoimmune disease,
 allergic rhinitis, urticaria, glaucoma, diseases characterized
 by enteromotility disorders, impotence, nephritis, cachexia,

benzimidazole derivative of any one of claims 1 to 15.

pharmaceutically acceptable salt thereof.